



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Vol. 3, No. 3

SEPTEMBER, 1916

THE SCIENTIFIC MONTHLY

EDITED BY J. McKEEN CATTELL

CONTENTS

The Scientific Investigation of Cancer. Dr. LEO LOEB	209
Insect Migrations as related to those of Birds. HOWARD J. SHANNON	227
Substances without Chemistry. Dr. JOHN WADDELL	241
A Glance at the Zoology of To-day. Professor H. V. WILSON	249
The Oceans, Our Future Pastures. ZONIA BABER	258
What's in a Job? Dr. BENJAMIN C. GRUENBERG	263
Science and Feminism. Dr. ROBERT H. LOWIE and Dr. LETA STETTER HOLLINGWORTH	277
Mysticism in War. Dr. ELSIE CLEWS PARSONS	285
The Origin and Evolution of Life upon the Earth. Dr. HENRY FAIRFIELD OSBORN	289
The Progress of Science:	
Scientific Appointments under the Government; A National Research Council; The Epidemic of Infantile Paralysis; Scientific Items	308

THE SCIENCE PRESS

LANCASTER, PA.

GARRISON, N. Y.

NEW YORK: SUB-STATION 84

SINGLE NUMBER, 30 CENTS

YEARLY SUBSCRIPTION, \$3.00

Two Notable Textbooks

Smith's Commerce and Industry

By J. RUSSELL SMITH, Professor of Industry in the Wharton School of Finance and Commerce of the University of Pennsylvania. 554 pp. 12mo. \$1.40.

SCHOOL SCIENCE AND MATHEMATICS:—The volume attempts to explain how the industries of man are more or less determined by his environment, how the climate affects man, how the soil upon which he lives furnishes him materials for shelter, wearing apparel, and food to eat. The major portion of the book is devoted to a discussion of the conditions as they exist in the United States. Latin America receives her due proportion, and the Orient comes in with its due share. The trade routes of the world are thoroughly discussed and outlined by charts. The text is profusely illustrated by original photographs, drawings, and charts written in a most interesting and fascinating manner. Scholar and layman will be equally interested in perusing its pages. There are appended several pages of statistics of great value It is a book which every person interested in the welfare of his country should purchase, read and study.

Kellogg and Doane's Economic Zoölogy and Entomology

By V. L. KELLOGG and R. W. DOANE of Stanford University. 532 pp. 12mo. \$1.50.

ENID HENNESSEY, *Marshall High School, Chicago, Ill.:*

In my opinion, it is the best book for use in secondary schools that I have seen. It contains the information that I want to give to my classes. The economic side appeals to high school pupils more than does the purely scientific viewpoint.

CHARLES P. SIGERFOOS, *Professor of Zoölogy, University of Minnesota:*

It is an extremely good and useful book for secondary school work, and should have a very large use in high schools of Minnesota.

R. F. BOURNE, *Kansas City Veterinary College, Missouri:*

I have decided to list this as our regular text for the coming season. The general scope of the work, as well as the manner of presentation, make it a very great improvement over anything we have used heretofore.

C. V. PIPER, *Bureau of Plant Industry, Washington, D. C.:*

The authors have very wisely combined with a technical treatment of each group of animals, valuable information concerning their relations to mankind. While the lack of usefulness of much zoölogical knowledge may not be a sound reason for neglecting it in the school, it is quite certain that a book which brings sharply to the young students' attention the importance of animals to man, will make more impression than one where the chief emphasis is placed on the purely zoölogical interest which an animal may possess.

Henry Holt and Company

34 West 33rd Street
NEW YORK

6 Park Street
BOSTON

623 South Wabash Avenue
CHICAGO

Revisions of Important Text-Books

Thompson's Elementary Lessons in Electricity and Magnetism

By SILVANUS P. THOMPSON. Revised by the author

Cloth, crown octavo, xv + 706 pp., 377 illustrations. \$1.50.

After a wide use for twenty-one years, this book now comes from the press in a completely revised form, which incorporates the progress of the science during this period, and brings the treatment abreast of the most recent developments in theory and practice.

Not only have the various topics taken up in the older book been brought to date and expanded where necessary to meet the needs of teacher and student, but the newer phases of the subject have been covered in the same clear direct manner which made the earlier volume popular as a text.

Entirely new chapters are devoted to the Electron Theory, to Wireless Telegraphy, to the Transmission and Distribution of Power, and to Electric Traction. In fact, progress in the development of the industrial applications of electricity has been so great in the past decade as to necessitate the remodeling of the latter half of the book. Throughout the book modern progress in construction and industrial application is described and illustrated by many drawings.

The general appearance of the new edition is much more attractive and serviceable than that of the old edition. The type is much larger, the space between lines is greater, and the number of illustrations has been increased by over 25%. Not only has the size of the page been increased, but the number of pages has also been increased by about ten percent. Although these changes have involved a very heavy increase in manufacturing expense, the retail price is only ten cents more than that of the old edition. The price has been kept unusually low in order to make it possible for instructors to require students in the first general college course on physics to purchase this book in addition to the textbook on general physics.

"I think the book, as revised, will be very satisfactory, and, as far as I can judge from a careful inspection, it will meet the requirements of the present day as well as the earlier editions ten or fifteen years ago met the requirements of that day. To a certain extent perhaps a book written at a later date cannot quite meet this requirement because of the growth of the subject treated, but I think the present volume does very well."—Professor C. R. Cross, Head of the Department of Physics in the Massachusetts Institute of Technology.

Huxley's Lessons in Elementary Physiology

By THOMAS H. HUXLEY, Revised by Joseph Barcroft,
King's College, Cambridge.

Cloth, 12mo, xxiv+604 pp., 185 illustrations. \$1.60

A thorough and substantial revision of this historic masterpiece, in which new material and additional illustrations have been included and further text-book apparatus provided. The manner in which Professor Barcroft has made this revision is best described in his preface, from which we quote:

"In approaching the revision of 'Huxley's Physiology,' my feelings have been similar to those of an architect to whom is entrusted the restoration of a historic building designed by a master hand.

Written by Huxley, the book was revised, and in fact almost rewritten, by Foster. The former was as great a writer as any scientist of his time, the latter may almost be said to have created English Physiology.

To 'restore' the work of these men from the dilapidations made by two decades of scientific progress is the task now entrusted to me. The sense of responsibility with which I approach it is, if possible, heightened by the affection which I have for the memory of Foster, who was my master.

I have faithfully left untouched any portion of the fabric in which there was not an actual flaw; but where the structure needed repair, it seemed to me due not only to the readers of the book but to the memory of the author, that the repair should be thorough, substantial, and simple. Such have been the principles on which I have tried to carry out my work."

Published at 64-
66 Fifth Avenue,
New York

THE MACMILLAN COMPANY

On Sale
Wherever
Books are sold

SCHOOL AND SOCIETY

A weekly journal covering the field of education in relation to the problems of American democracy

Edited by J. McKEEN CATTELL

SATURDAY, JULY 15, 1916

- The Secular Free Schools: Ella Flagg Young.
The Place of the University in a Democracy: Charles R. van Hise.
Citizenship in a Republic: William Jennings Bryan.
Some International Aspects of Public Education: William G. McAdoo.
Educational Events:
The Dismissal of Chicago Teachers belonging to the Teachers' Federation; The New York State Military Training Commission; Education at the English Public Schools.
Educational Notes and News.
Discussion and Correspondence:
How to Reform our Colleges: A Professor on the Pacific Coast. A Voice from the Past: Edwin L. Holton. The Carnegie Foundation for the Advancement of Teaching: J. McKeen Cattell.
Quotations:
The National Education Association and Military Training in the Schools.
Resolutions of the National Education Association.
The Carnegie Foundation for the Advancement of Teaching.
Educational Research and Statistics:
Statistical Comparison of Thirty University Libraries: Charles Wells Reeder.
Societies and Meetings:
The Annual Meeting of Active Members of the National Education Association.

SATURDAY, JULY 29, 1916

- Salaries and Pensions: Joseph Swain.
Teachers' Pensions: Clyde Furst.
The Political Aspects of the Community Center or the School Building as a Civic Center: Edward A. Fitzpatrick.
Vocational Education: John D. Shoop.
Educational Events:
Comparison of El Paso Schools with Cleveland Schools in Spelling, Reading and Writing; English Vital Statistics; The College of the City of New York and the Municipal Service.
Educational Notes and News.
Discussion and Correspondence:
The Cultural Value of Courses in Education: H. G. Townsend; The Human Worth Curriculum: Thos. C. Blaisdell. Appeal from a Genius: J. H. Dillard.
Quotations:
A British Royal Commission on Education.
Educational Research and Statistics:
The Extent of Adoption and Attitude toward General Science: Aravilla Meek Taylor.
Societies and Meetings:
The National Education Association.

SATURDAY, JULY 22, 1916

- The War and Some of its Relations to Education: G. Stanley Hall.
The Common School as an Instrument of Democracy: Carroll G. Pearse.
The Place of the Normal School in a Democracy: John R. Kirk.
The American School and the Working Man: Samuel Gompers.
Educational Events:
Public Education in Argentina; Evening-school Budgets; The University and Civil Service.
Educational Notes and News.
Discussion and Correspondence:
Practise Teaching at the University of Minnesota: Raymond A. Kent. Culture and Engineering: A. T. Robinson.
Quotations:
The Trade Education of Maimed Soldiers; The Pittsburgh Educational Fund Commission.
Educational Research and Statistics:
Suggesting another Method of Teaching Personal Hygiene: Edward F. Brown.
Societies and Meetings:
The National Education Association.

SATURDAY, AUGUST 5, 1916

- Chinese Education: V. K. Wellington Koo.
What the Public Schools can do toward the Maintenance of Permanent Peace: Fannie Fern Andrews.
Significant Problems of Education in New Orleans: David Spence Hill.
Unification of Mathematics in the High School: W. D. Reeve.
Educational Events:
Eligibility Rules for Intercollegiate Athletics, The University of Manchester and the War; Educational Field Work in Wisconsin; Alleged Irregularities in New York City School Examinations.
Educational Notes and News.
Discussion and Correspondence:
A Need in the Study of American Literature: Carl Holliday.
Quotations:
Education as a Political Institution; Appropriations for Committees of the National Education Association.
Educational Research and Statistics:
Statistics concerning the University of Illinois: Vergil V. Phelps.
Societies and Meetings:
The National Education Association.

\$3.00 a Year

Published Weekly

10 Cents a Copy

THE SCIENCE PRESS

Lancaster, Pa.

Garrison, N. Y.

New York City: Sub-Station 84

School and Society

Under the title "A School Journal at Last" the *Newarker*, published monthly by the Newark Free Public Library, says:

At last we have a weekly journal devoted to the subject of education which the average intelligent citizen can read with pleasure and profit. It is not devoted to primary methods. It does not tell how to teach arithmetic. It is not too philosophical, or too theoretical, or too dismally practical. It is simply a sensible weekly journal which covers the whole field of education in an agreeable, rational and illuminating manner.

It is called *School and Society*. It is edited by J. McKeen Cattell. It is published by the Science Press, Lancaster, Pa., and Garrison, N. Y. This same press publishes, and this same editor edits the weekly journal called *SCIENCE*. *School and Society*, in its field, is as good a journal as *SCIENCE*, in its field, which is saying much.

Principals, assistant principals, high-school teachers, and the teachers in the higher grades should read this journal every week, unless they can find a better source of information and enlightenment elsewhere.

The library at present takes one copy of this magazine. If teachers and others make requests for it, the library will take a number of copies and lend them, so desirable does it seem that a journal of this kind be widely read in our city.

A leading editorial article in the New York *Evening Post* begins:

With the opening of the new year an interesting addition was made to the already large list of American journals devoted to educational questions. *School and Society*, which forms the third periodical of somewhat kindred nature edited by Dr. J. McKeen Cattell—the other two being *SCIENCE* and *The Popular Science Monthly*—aims to combine the functions of a professional journal for those engaged in educational work and a medium of interesting information and discussion for "the wider public for whom education is of vital concern."

What strikes one, above all, in reading the early numbers of *School and Society* is the enormous range of the subjects which, within the past decade or two, have become live topics in educational discussion. Indeed, if it was the editor's purpose to produce this impression without a word of editorial flourish—for he adds nothing to the extremely brief announcement of purpose in the advertised prospectus—he has adopted an extraordinarily effective method of doing so in using as the initial article of the journal President Eliot's address at the inauguration of Dr. Finley as Commissioner of Education of the State of New York.

Published Weekly at Three Dollars a Year by

THE SCIENCE PRESS

Lancaster, Pa.

Garrison, N. Y.

Sub-Station 84: New York

Heredity and Environment in the Development of Men

By EDWIN GRANT CONKLIN

Professor of Biology in Princeton University

"The lay reader cannot fail to be interested in the wonderful array of post-Darwinian achievements in biology which are here marshalled in such a clear way; and the biologist familiar with the detailed discoveries to which mere reference is made by way of evidence or illustration, will profit much by the survey of a whole field in well-balanced perspective. The general reader, who gets from current literature quite contradictory and often distorted views as to the undertakings and the possibilities of the eugenics movement, will here find a correct and sane inventory of both."—*Science*.

"The book is marked by sound judgment, firmness and clearness of treatment, and a vigorous buoyancy. It is to be strongly recommended to those who wish to understand the facts of human development in their relation to the larger problems of human life. The volume is well got up, effectively illustrated, and provided with a carefully selected bibliography and an unusually good glossary as well as a full index."

—*Nature*.

"We have great pleasure in commending the study of these instructive and suggestive lectures to all who are interested in the problems of heredity and environment as they affect the development of animals and man."—*The Lancet*.

"For those who desire real knowledge of the important subjects of heredity and environment, Professor Conkin's book is emphatically the one to read. In hardly another treatise can be found so clear, shapely and relatively simple an outline of the essential scientific facts, or so sound and inclusive a view of what the facts humanly signify."—*North American Review*.

This book has been adopted for use as a required text book or for collateral reading in the University of California, Agricultural College of Utah, Central Wesleyan University, Centre College, Colorado Agricultural College, Dakota Wesleyan University, Elmira College, Goucher College, Harvard University, Northwestern University, Ohio Wesleyan University, Princeton University, Syracuse University, University of Colorado, University of Illinois, University of Pittsburgh, University of Texas.

548 pages, 12mo, cloth, 96 illustrations.
\$2.00 net, by mail \$2.10.

Princeton University Press

127 William Street

Princeton, N. J.

"Humanized Science"

is what a reviewer calls

An Introduction to Science

By BERTHA M. CLARK, Ph.D., Head of Science Department, William Penn High School, Philadelphia. 494 pages. Price, \$1.20

"Dr. Bertha Clark has attempted, successfully, to build up a body of scientific material for freshmen in high school, drawn from the problems of a scientific nature which confront the pupils in their home life and outdoor life. The book is, therefore, not 'pure science' but 'humanized science'; and the author attempts to organize these problems and their solutions so as to leave the pupils with a scientific point of view of their problems and their solution. Hence we have an introduction to science of a kind likely to be of great value to the pupil."

AMERICAN BOOK COMPANY
New York Cincinnati Chicago



A Course in General Chemistry

McPherson and Henderson

A comprehensive study of general chemistry for college students, which contains only such material as experience has shown to be within the ability of the average college student. It is a conspicuous success by reason of these features.

It is thoroughly modern in theory and practice.

It presents many interesting historical facts.

Its discussions are full, interesting.

It distinguishes between theory and established fact.

It is book written especially to meet present needs in college classes.

555 pages, illustrated \$2 25

Ginn and Company

Boston New York Chicago London
Atlanta Dallas Columbus San Francisco

The Ellen Richards Research Prize

The Naples Table Association for Promoting Laboratory Research by Women announces the offer of a research prize of \$1000.00 for the best thesis written by a woman embodying new observations and new conclusions based on independent laboratory research in Biology (including Psychology), Chemistry or Physics. Theses offered in competition must be in the hands of Chairman of the Committee on the Prize before February 25, 1917. Application blanks may be obtained from the secretary, Mrs. Ada Wing Mead, 283 Wayland Avenue, Providence, R. I.

JULIEN'S POWER AND FOOT LATHES

Use of Geologists, Mineralogists, Petrographers, Metallurgists, Mining Engineers, in SLICING and POLISHING all hard substances, rocks, etc., and in preparation of MICROSCOPIC THIN SECTIONS.

GUSTAVUS D. JULIEN

3 Webster Terrace NEW ROCHELLE, N. Y.

LEARN TO BE A WATCHMAKER

BRADLEY POLYTECHNIC INSTITUTE

Morological Department

Peoria, Illinois

Formerly Parsons Morological Inst.

Largest and Best Watch

School in America . . .

We teach Watch Work, Jewelry, Engraving, Clock Work, Optics. Tuition reasonable. Board and room in new school at moderate board for Catalog of Information.



This entire building used exclusively as a watch school.

Georgetown University School of Medicine and Dental Department

The Sixty-fourth Session will begin September 28th, 1914, and continue eight and one-half months. Six-Year Collegiate and Medical Course leading to degrees B.S. and M.D. Practical laboratory work under special instructors, in Anatomy, Physiology, Chemistry, Histology, Pathology and Bacteriology. Ample facilities for clinical experience and practical work in hospitals of city and in the University Hospital, containing in all over 3000 beds. For particulars address

GEORGE M. KOBER, M.D.¹
Dean School of Medicine, 1819 Q Street

SHIRLEY W. BOWLES, D.D.S.²
Dean Dental Department, 1616 Eye Street, N.W.
Washington, D.C.

PATENTS

BALDWIN & WIGHT

25 Grant Place, Washington, D. C.

Patents, Trade-Marks and Copyrights

Practice before the Patent Office, Library of Congress and Patent, Trade-Mark and Copyright Courts.
Over 20 years' experience.

Reference: Columbia National Bank, Washington, D.C.

Other references furnished if desired.